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(54) Cleaning materials and products.

(57) A cleaning pad or block (10) for the cleaning of windows comprises absorbent cellulosic fibres. The block or pad preferably comprises paper, and may be made by a pressing process or by a milling process. The material can include a wide variety of fibrous materials. The block or pad may be made as one piece or in multiple-sheet format. The active surface or surfaces of the pad or block are preferably provided with holes (14) and/or grooves (12) and/or protuberances to aid rapid removal of the surface water.

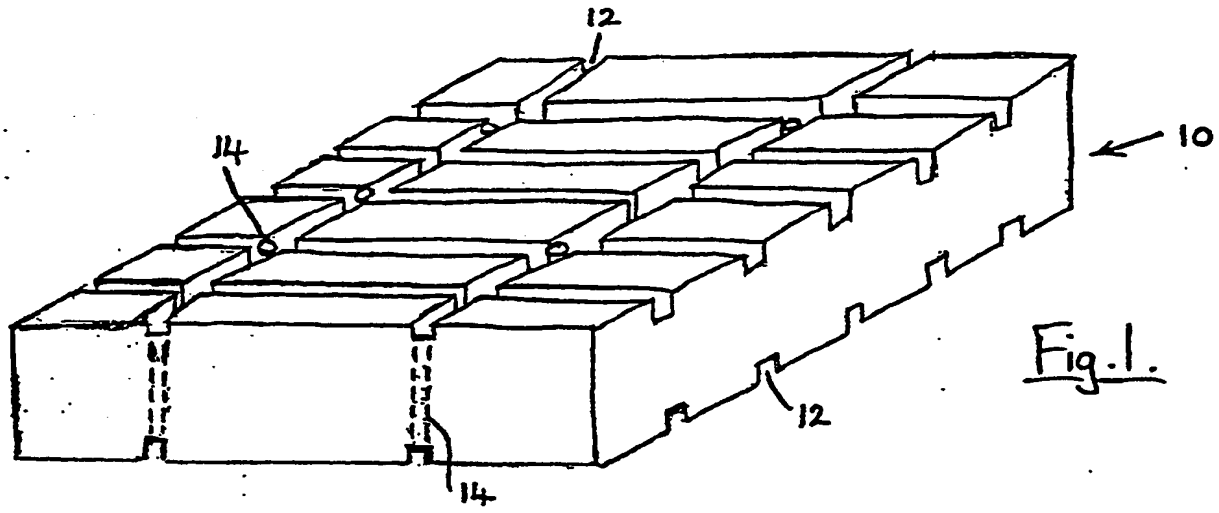

Fig.1.

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This invention relates to materials and products for the cleaning of glass, and is particularly concerned with the cleaning of windows.

Various methods and materials have been used over the years for the cleaning of glass, and especially windows. These range from the use of special liquids to the use of special impregnated cloths and the use of chamois leather. However, none of these materials or products enables one always to obtain a perfectly clean surface without smears.

It is an object of the present invention to provide a material and a product which enables one to clean glass surfaces, particularly windows, efficiently and with exceptionally good results in terms of clarity and lack of smearing.

The present invention is based upon the use of a material comprising absorbent cellulosic fibres, preferably in block form.

Preferably, the block comprises what is conventionally understood by the term "paper". However, other cellulose-based materials may be used if having sufficient absorbency.

In accordance with the invention there is provided material in sheet or block form for the cleaning of windows, comprising absorbent cellulosic fibres and having at least one surface compatible with a window surface.

A cleaning block or pad made of such material according to the invention is preferably made of compressed material. However, the cleaning product may comprise a compressed block portion or portions in combination with other portions having greater absorbency.

The material may include one or more of a wide range of fibrous materials.

The cleaning product of the present invention is preferably used after washing the glass with water containing a soap or detergent.

Reference to the material having a surface or surfaces compatible with a window surface means that the material will have a composition such that it will leave a non-smeared surface after use and without particles of the material being left on the window.

In order that the invention may be more fully understood, a number of embodiments of material and product in accordance with the invention will now be described by way of example and with reference to the accompanying drawings, in which:

Fig. 1 shows a first embodiment of an absorbent block in accordance with the invention;

Fig. 2 is a sectional view of a portion of a second embodiment of absorbent block having an inner sponge;

Fig. 3 shows a block fitted to an applicator;

Fig. 4 shows a further embodiment of cleaning block in accordance with the invention;

Fig. 5 shows yet another embodiment of cleaning block in accordance with the invention;

Fig. 6 shows three alternative configurations for the surface of a cleaning block;

Fig. 7 shows a modified version of the cleaning block of Fig. 6;

Fig. 8 shows a cleaning device in accordance with the invention made from a plurality of sheets;

Fig. 9 shows a cleaning device in accordance with the invention formed as a roller;

Fig. 10 shows yet another embodiment of cleaning device in accordance with the invention;

Fig. 11 shows a further embodiment of cleaning device in accordance with the invention of cuboidal form; and

Fig. 12 shows a cleaning device in accordance with the invention incorporating a spray device.

Fig. 1 shows a block 10 for use in cleaning glass, for example windows. The block 10 is generally rectangular in shape and is provided with a grid array of grooves 12 in its two largest faces, on opposite sides of the block. The grooves 12 in the opposite faces of the block may be connected by holes 14 extending through the thickness of the block. The purpose of the grooves/holes is to enable liquid and suds on the glass surface more easily to be removed from the glass surface and absorbed into the block by providing runways for the liquid.

Fig. 2 shows a modified embodiment of block of "sandwich" construction having a central sponge core layer 18 between two layers 19 and 20 of more rigid material. Here the block is shown as being provided with tapered holes 22, but cylindrical holes and/or grooves may alternatively be provided, for example as in the embodiment shown in Fig. 1.

Fig. 3 shows the possibility of mounting the block in an applicator 24 having a handle 25 for ease of use. The block can be removed easily from the applicator and replaced by a fresh block as and when necessary.

The material of which the block 10 in Fig. 1 or the block layers 19 and 20 of Fig. 2 may be made has wide variation. In one form the block can be made of pulped paper which is compressed into block form. Alternatively, the material can be made in a mill. It has been found that newspaper or low-grade paper is preferred. Other cellulose-based materials may be used, either alone or in combination with other materials. Wood fibres, wood pulp, cotton fibres, man-made fibres, natural fibres, leather, sponge, rubber and synthetic plastics materials may be used, singly or in combination, in combination with one or more cellulose-based materials to give the required material for the cleaning block. Also, chemical products may be added to the material, for example for strengthening purposes to extend the life of the cleaning block.

In use, the glass is preferably first washed with hot water to which has been added soap or a detergent. The solution is mixed thoroughly to produce suds. The glass is then washed, preferably mainly with suds, in order not to have an excessive amount

of water on the glass surface. The cleaning block is then wiped over the glass and the water and suds are absorbed and/or channelled away into the block. This produces a glass surface without smears and without any particles of the cleaning material remaining on the glass surface.

Fig. 4 shows a cleaning block similar to that described above, but here the active surface of the block 10 is provided with surface grooves 12 which extend at an oblique angle to the main axes of the block. This is to provide improved cleaning properties when the block is moved by the user in a horizontal or vertical direction, and prevents unwiped tracks being left on the glass surface. Holes 14 can be provided in the bottom of each groove, as shown.

Fig. 5 shows an alternative arrangement in which, instead of having a full block, one has a thin support plate 26 which has a handle 28 on one face and a plurality of raised pads or blocks 30 on the other face. These pads or blocks 30 are preferably shaped so that obliquely extending grooves are defined therebetween.

Fig. 6 shows three alternative configurations for the surface of the cleaning block. The three illustrated alternatives are a flat surface 32 with small holes 33 therein, a punched surface for the block which leaves raised disc-shaped protuberances 34, and a punched surface for the block which leaves a raised diamond-shaped pattern of protuberant ribs 35.

Fig. 7 shows a cleaning pad 39 with three alternative surface configurations. These comprise a plain surface 36, a surface with indentations 37, and a surface with holes 38. The cleaning pad 39 is relatively thin and is mounted on an adapter 40, possibly with an internal sponge, so that the pad can be replaced as necessary.

Fig. 8 shows a cleaning pad or block 42 made up from a plurality of thin flexible sheets of material in accordance with the invention which can be peeled off as they become dirty from use.

Fig. 9 shows a roller system with the cleaning block here being in the form of a cylindrical element 44 which can be solid or annular and which provides a peripheral cleaning surface. As with the embodiment shown in Fig. 8, the cylindrical member 44 can be made up from a plurality of layers of material in accordance with the invention which can be removed one by one as they are used.

Fig. 10 shows a cleaning product in accordance with the invention in which the active element is a thin but relatively stiff replaceable card or sheet 46 which can be mounted on an applicator 48.

Fig. 11 shows a cleaning product in accordance with the invention in the form of a block 50 which has four utilisable surface areas and which can be mounted for example on a handle or arm 52 which is gripped by the user. The block 50 could be in the form of a replaceable sleeve or could comprise peel-off sheets of material.

Fig. 12 shows yet a further embodiment of cleaning device in accordance with the invention. Here, the device comprises a block or pad 60 which can have a composition and configuration such as in any of the embodiments described above, which is mounted detachably on a handle 62. The handle 62 incorporates a filler cap 64 and has an internal spray mechanism (not shown). A push button 66 is provided on the handle to operate the spray mechanism. The handle 62 is hollow to contain water or any other liquid used for cleaning purposes. In use, a spray of liquid is generated through the pad or block 60 on to the window surface, by use of the button 66.

In each of the embodiments described above, the pad, block or sheet may have any of the compositions referred to above, based upon absorbent cellulosic fibres with or without additional materials.

Claims

1. Material in sheet or block form for the cleaning of windows, comprising absorbent cellulosic fibres and having at least one surface compatible with a window surface.

2. Material as claimed in claim 1, characterised in that it consists of or comprises paper.

3. Material as claimed in claim 1 or 2, characterised in that it is a compressed material.

4. Material as claimed in claim 1 or 2, characterised in that it is made by a milling process.

5. Material as claimed in any preceding claim, characterised in that it includes one or more of wood fibres, wood pulp, cotton fibres, synthetic fibres, natural fibres, leather, sponge, rubber and plastics material.

6. A window cleaning device comprising a block or multiple-sheet pad of material as claimed in any of claims 1 to 5.

7. A device as claimed in claim 6, characterised in that the block or pad has grooves and/or holes in the surface or surfaces thereof adapted for contact with the window.

8. A device as claimed in claim 6 or 7, characterised in that it is of sandwich construction with at least one resilient core layer.

9. A device as claimed in any of claims 6 to 8, characterised in that the surface or surfaces for window contact are provided with protuberances.

10. A device as claimed in any of claims 6 to 9, characterised by spray means arranged to provide a liquid spray through the block or pad.

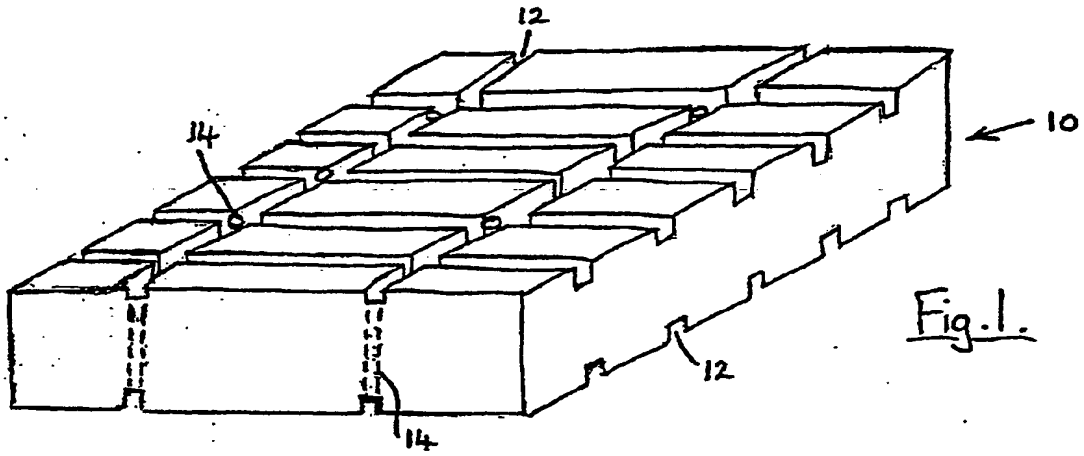

Fig.1.

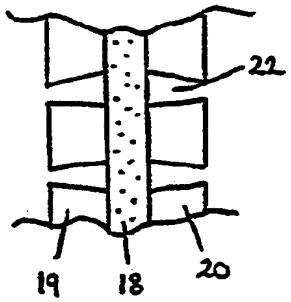

Fig.2.

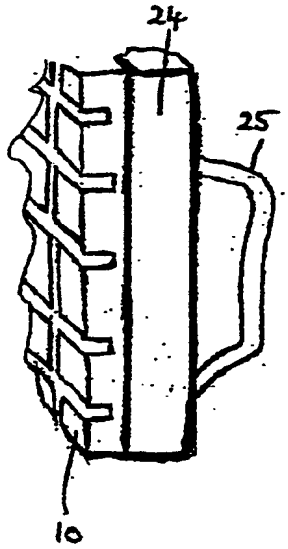

Fig.3.

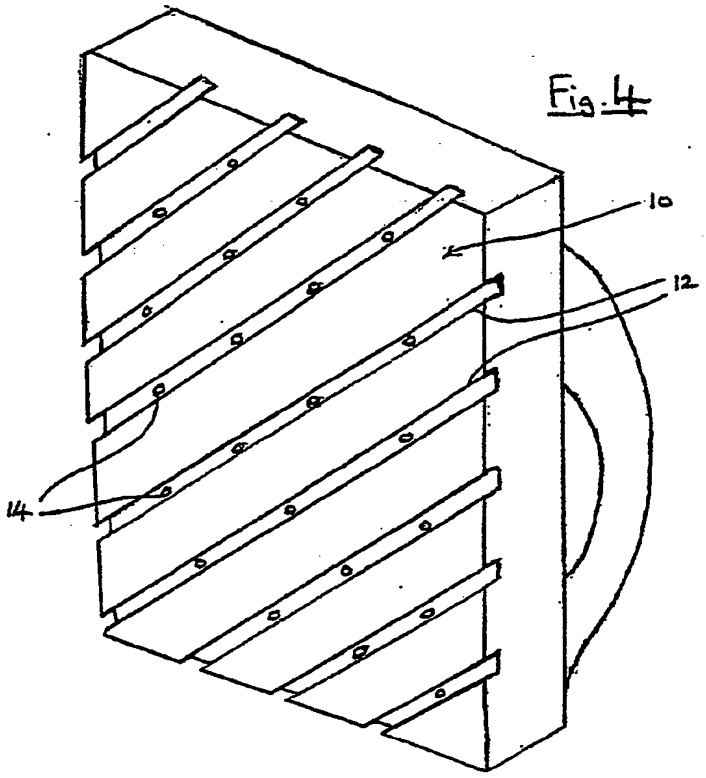

Fig.4

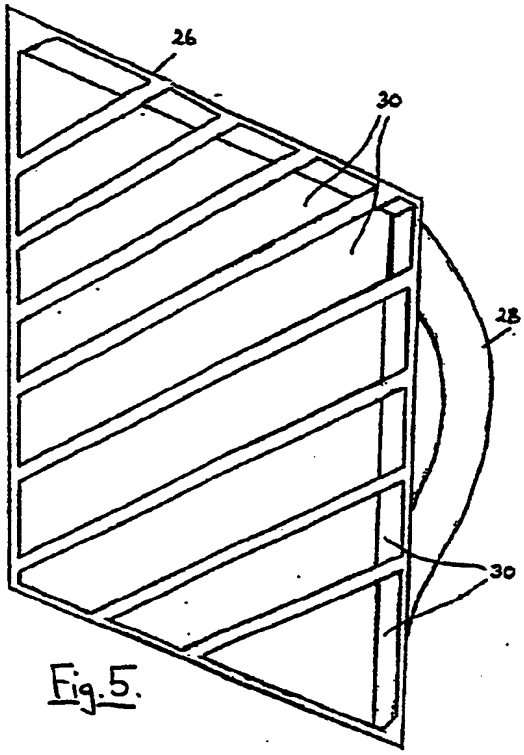

Fig.5.

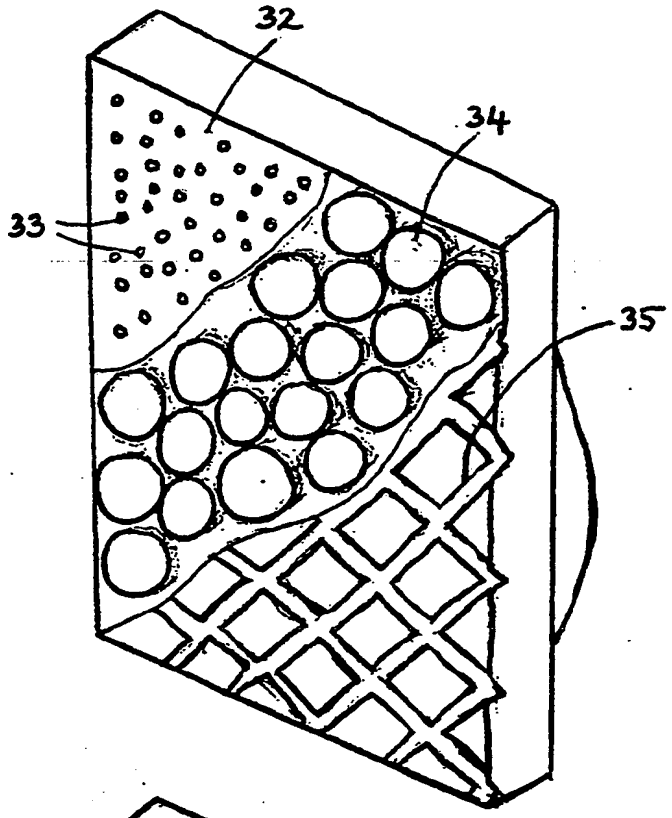

Fig.6.

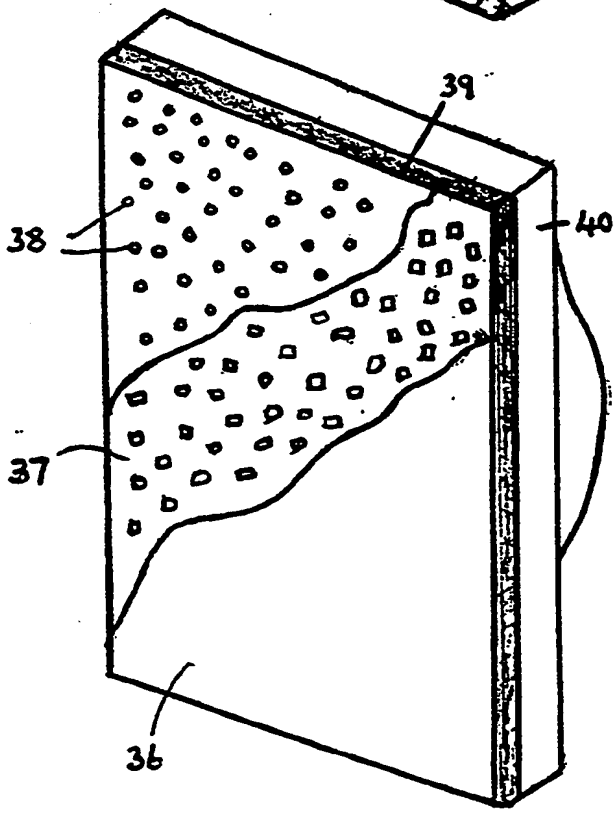

Fig.7.

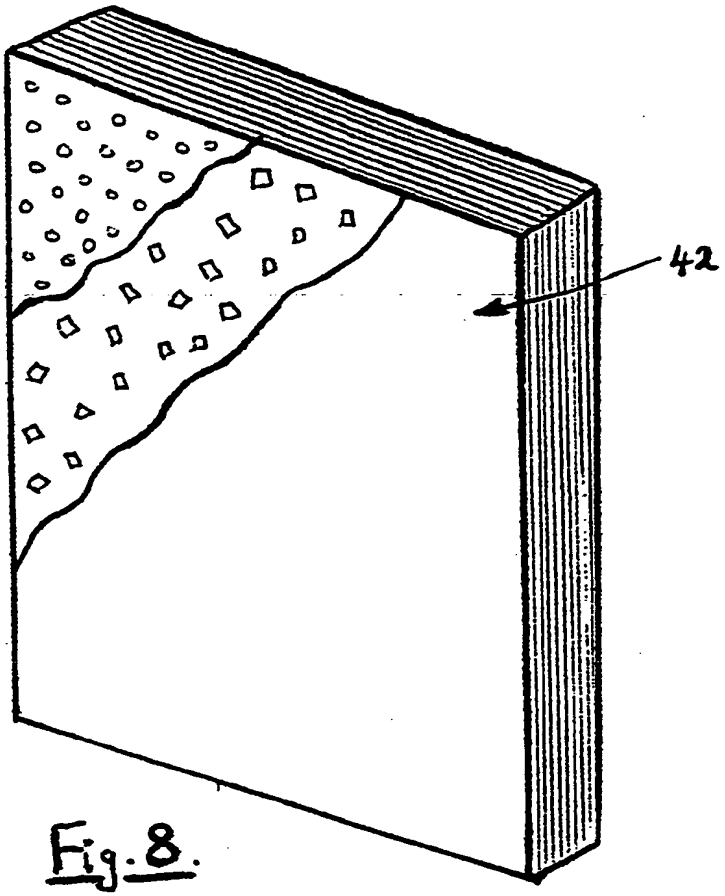

Fig. 8.

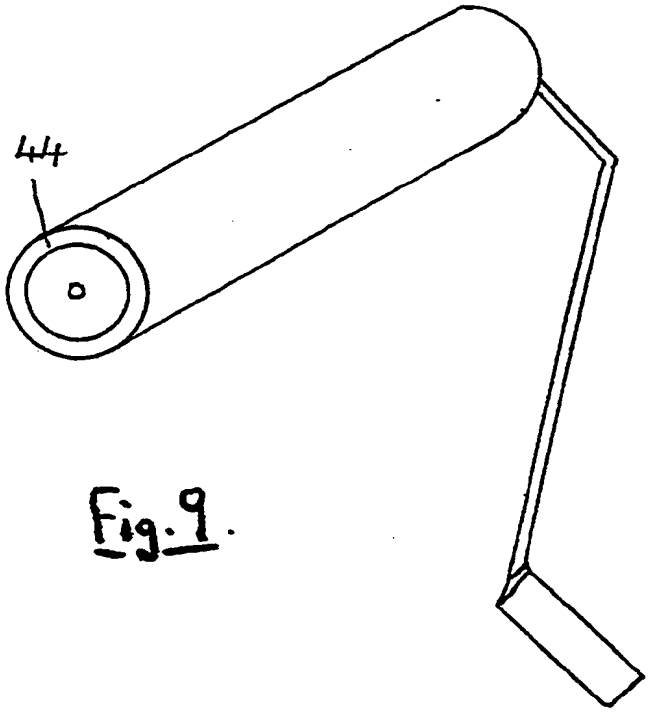

Fig. 9.

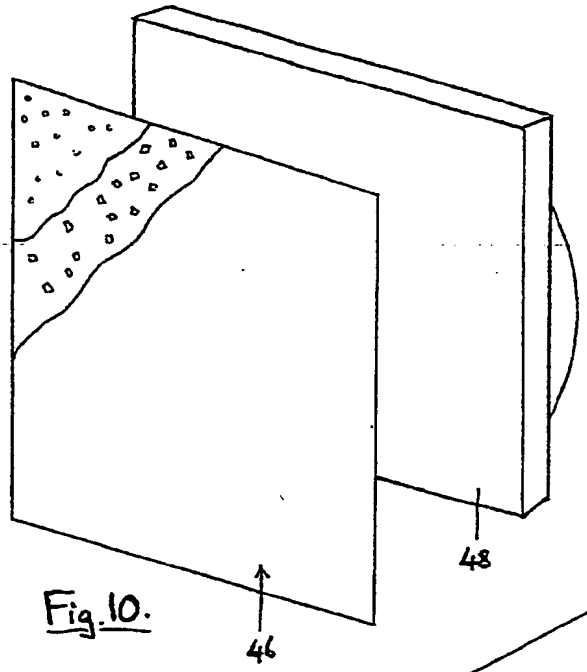

Fig.10.

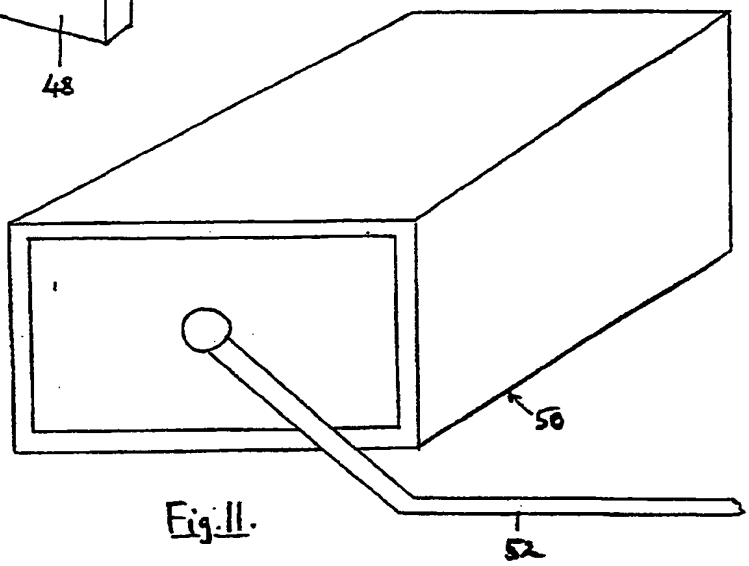

Fig.11.

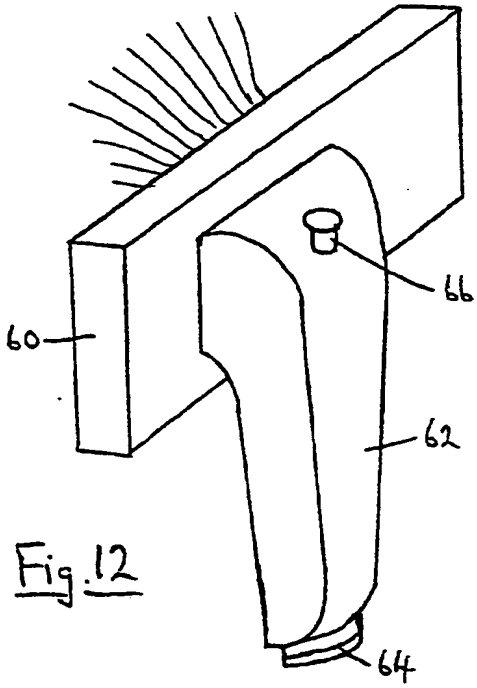

Fig.12

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EUROPEAN SEARCH REPORT

Application Number EP 91304759.3

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
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A	EP - A1 - 0 273 594 (AIRWICK INDUSTRIES INC.) * Totality * --	1,5	
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A	US - A - 2 932 839 (FLANIGAN et al.) * Totality * --	1,8	
A	US - A - 3 965 518 (MUOIO) * Totality * --	1,5	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
VIENNA	26-08-1991	BEHMER

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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EUROPEAN SEARCH REPORT

Application Number

EP 91304759.3

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
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A	GB - A - 1 370 112 (PROCTER & GAMBLE LIMITED) * Totality *	1,5,6	
A	GB - A - 677 829 (MATHEWS) * Totality *	1	
A	US - A - 3 116 574 (CIESIELSKI) * Totality *	1,9	
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A	EP - A1 - 0 058 633 (AIRWICK AG) * Totality *	1	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
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A	DE - A1 - 2 314 647 (BARANNE S.A.) * Totality *	1	
A	DE - A1 - 2 314 648 (BARANNE S.A.) * Totality *	1	
A	DE - A1 - 2 519 745 (HENKEL & CIE) * Totality *	1	

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VIENNA	26-08-1991	BEHMER

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